**Testimony**
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# ATSDR's Role in Environmental Health Tracking


***Statement of***

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I am Dr. Henry Falk, Assistant Administrator of the Agency for Toxic Substances

and Disease Registry (ATSDR). ATSDR is a sister agency to the Centers for Disease Control and Prevention (CDC). Congress created ATSDR in the Superfund legislation to assess the public health impact of Superfund sites to nearby populations, and to determine the relationship between exposures to hazardous substances and disease.

ATSDR has the specific legislative authority to develop and maintain a national registry of serious diseases and illnesses of persons exposed to toxic substances.

Over the past twenty years we have been working to recognize disease patterns in relation to possible toxic exposures from Superfund sites. Through our toxicological and chemical exposure programs, as well as epidemiologic studies, we have made considerable progress in assessing the association between exposure and health effects for many individual chemicals – and for many chemical mixtures – although much work remains to be done.

This experience is one of a number of factors that uniquely position ATSDR to work with the CDC on the planning and implementation of a joint Environmental Public Health Tracking Network.

Another strong component of the ATSDR program that will be of critical

importance to an environmental public health tracking network is our Geographic Information System (GIS) capability. ATSDR routinely uses GIS mapping as a tool to help illustrate plumes of exposures from available environmental data overlaid with demographic data for the surrounding population (particularly vulnerable groups such as young children, the elderly or pregnant women). This not only enables the health professionals who are assessing the possible health problems resulting from such exposures to better see what they are dealing with – but also gives community members a picture of their possible exposures.

ATSDR has expanded its use of GIS to help with epidemiologic studies and with emergency planning. We are incorporating as many databases as possible, including data from the Environmental Protection Agency's (EPA) Toxic Release Inventory, national hospital data, and others.

GIS mapping will serve as an important tool for the eventual environmental public health tracking network allowing us to overlay graphically environmental data with health disease patterns data. This can literally give us a picture of possible associations between environmental exposures and disease at a very local geographic level such as a zip code area or census tract.

A good example of ATSDR's work linking environmental exposure to disease using the latest technologies is our health study in Toms River, New Jersey. Working with the New Jersey Department of Health and Senior Services (NJDHSS), ATSDR confirmed that the overall childhood cancer incidence rate in Dover Township was statistically significantly elevated for the period of 1979 through 1995. This increased rate was primarily due to excesses of leukemia and brain/central nervous system cancer in females residing in the Toms River section of Dover Township. Working closely with the community and the NJDHSS, we jointly designed a study to test the hypothesis that the childhood cancers were associated with environmental exposure pathways identified in earlier reports – namely water (in wells) and air.

ATSDR conducted sophisticated modeling of the water distribution system that mapped the percentage of water that each household received from each well field on a monthly basis. That mapping was done for the entire time frame of 1962 through 1996. Using ATSDR funding, NJDHSS conducted a case-control epidemiologic study made up of two parts – an interview study and a birth records study. Though the sample size was small in the study, they found an association between prenatal exposures to a particular well field in the years 1982-1996 and leukemia in female children of all ages. At only a very few other sites has an association between an environmental pathway and a cancer cluster been

documented. For this reason – the findings of the Toms River study are especially important.

The water modeling that was done applied new, emerging technologies to address the concerns in this community. Using the new technology of GIS, we can for the first time start linking all existing, geocoded data bases together. Linking disease data from cancer registries, Behavioral Risk Factor Surveillance System (BRFSS), or blood lead levels to EPA's Toxic Release Inventory or air quality data could provide important new insights to possible linkages between exposures and disease.

CDC and ATSDR have key surveillance systems in place in a limited number of states. CDC's national birth defects registry program is currently in 35 states, and CDC is working with 37 asthma surveillance projects; while ATSDR's Hazardous Substances Emergency Event Surveillance (HSEES) system is in 16 states. These tracking systems are important to identify not only national rates of disease, but even more importantly clusters of disease which may be caused by environmental factors we can ameliorate.

We also should develop new tracking of diseases thought to have some relationship to environmental exposures. For example, currently no tracking

exists for critical neurologic diseases such as multiple sclerosis or Parkinson's, nor immune system diseases such as lupus and other autoimmune diseases, nor developmental diseases such as autism or other neurodevelopmental diseases. Nor do any tracking systems exist for diseases known to be caused by exposure to specific hazardous substances like asbestos.

ATSDR has begun to address one of these diseases – multiple sclerosis (MS) – around multiple Superfund sites. In an article just published in *Neurology,* ATSDR researchers found nationally a 50% increase in MS in women for the period of 1991 - 1994, versus an earlier time period of 1982 - 1986. To address local concerns, ATSDR in cooperation with state and local public health partners, has initiated a number of studies. In El Paso, Texas a cluster of MS cases was investigated. Based on available background estimates, preliminary results show the number of MS cases among former students at one school to be twice as high as expected. In another effort, we are funding programs in Ohio, Missouri and Texas to investigate MS prevalence rates in Lorain County, Ohio; Independence and Sugar Creek, Missouri; and a 19-county area around Lubbock, Texas. These studies will use neurologists' medical records as the primary data source to determine age- and sex- specific MS prevalence rates in these areas. ATSDR conducts these efforts through a cooperative agreement program, and has established such relationships with more than 30 state health departments.

Exposure to asbestos clearly causes disease of the lungs. In a medical screening program of more than 6,000 people that ATSDR conducted from July-November, 2000 in Libby, Montana, more than 18% of the population were found to have lung abnormalities. Former workers from W. R. Grace had an even higher incidence of disease – 48%. These abnormalities were associated with exposure to tremolite asbestos. Had a tracking system been in place we would have found these cases much earlier. But, even if established now, much good can be done. Under its registry authority, ATSDR is planning to establish a registry for former workers and families at Libby to track people over time, find new cases earlier and assist in referring patients for timely medical treatment. We also are currently assisting the New York City Department of Health and CDC in developing a conceptual framework for a registry of workers and residents in lower Manhattan in the wake of the World Trade Center disaster.

If we are ever to determine the nature and extent of environmental causes for these diseases, it is important that we initiate tracking programs for each of them, and build them into an integrated data system. Working with the states and other stakeholders, CDC and ATSDR believe we can implement an effective and viable system nationwide that can make the Pew Commission's vision a reality.

Madame Chairman, this concludes my testimony. I would be happy to answer any questions.